DATA SYSTEMS

TRACK TRANSMIT RECEIVE RECORD

STREAM
KA-BAND CONVERTERS

19” 1U/2U, 1 to 6 channels,
Up/Down Ka-band converters

RADIO FREQUENCY EQUIPMENT

Stream Ka-band UP and DOWN converters are designed to address new needs for **high data rates in wideband transmissions** with up to 1.5 GHz instant bandwidth.

The **Stream modular architecture** enables any requirement from a one channel test bed up to a complex multi up/down/ tracking ground station.

Stream Ka-band converters offer reliable and stable performance, even across an **extended temperature** range and allow direct antenna pedestal integration.

- EGSE/SCOE & testbeds
- Earth Observation Satellites
- Scientific Missions

MODULAR ARCHITECTURE
Up to three channels in a 1U 19” and up to six channels in a 2U 19” rack

WIDE BANDWITH
Up to 1.5GHz instant bandwidth

WIDE TEMPERATURE RANGE
-20°C / +50°C
-4°F / +122°F

REDUCED PHASE NOISE
New oscillator module guarantees excellent signal quality

EASILY CONFIGURABLE
Ethernet (TCP/IP), RS485 remote control and front panel control

FLEXIBLE ARCHITECTURE
Allows independant or dependant channels, channel or LO redundancy

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RADIO FREQUENCY EQUIPMENT

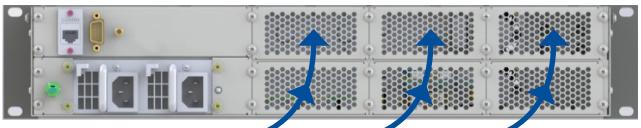
STREAM KA-BAND CONVERTERS

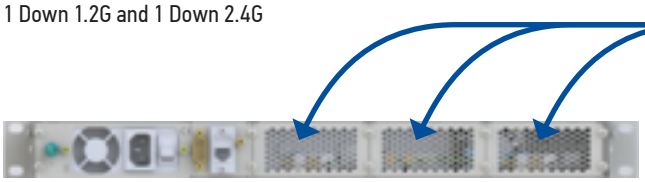
HIGH MODULARITY

Two 19" rack size: 1U with up to 3 slots and 2U with up to 6 slots
Any mix possible: Up, down, 1+1 or 2+1 (2U only) redundancy, dependant or independant LO, IF

Sample 1U configurations:
1 Down 2.4G
1 UP 1.2G
1+1 Down 1.2G
1 Down 1.2G and 1 Down 2.4G
1 Down and 1 UP 1.2G with independant LO
2 Down 2.4G and 1 UP 2.4G
Other configurations

Your choice: Down 1.2G/2.4G - Up 1.2G/2.4G
Redundancy 1+1/2+1 - LO, LO redundancy





Sample 2U configurations:
2+1 Down 2.4G and 2 UP 2.4G, LO redundancy
4 Down 2.4G, 1 Down 1.2G and 1 UP 2.4G
2 Down 2.4G, 2 Down 1.2G, 1 UP 2.4G and 1 UP 1.2G
Other configurations

UP CONVERTER CHARACTERISTICS

Input characteristics

Bandwidth & IF ..... 1500MHz (2400MHz IF), 750MHz (1200MHz IF)
Noise figure ..... < 9 dB
VSWR ..... < 1.4:1 on 50 Ω

Transfer characteristics

Conversion type ..... Single, no inversion
Gain ..... 44 dB min. @2400MHz, 40 dB min. @1200MHz
Gain control ..... 0 to 31.75 dB, 0.25 dB steps
Gain ripple ..... ±2 dB (2400MHz IF), ±1 dB (1200MHz IF)
Gain slope ..... ≤ 0,03 dB/MHz
Group delay variation ..... < 1.2 ns
Mute isolation ..... ≥ 50 dB

Output characteristics

Frequency ..... 25.5 – 27 GHz
VSWR ..... < 1.5:1 on 50 Ω
1dB compression point ..... ≥ +3dB (2400MHz IF), ≥ +0dB (1200MHz IF)
OIP3 ..... ≥ +13dB (2400MHz IF), ≥ +10dB (1200MHz IF)
In-band dependant spurious (@ max. gain) ..... ≤ -40 dBc
In-band independant spurious (@max. gain ..... ≤ -50 dBm

ENVIRONMENT / USER INTERFACES

Chassis size ..... 19-inch rack mountable, 1U or 2U, 20-inches
Operating temperature ..... -20°C to +50°C
Power supply ..... Single (1U), Redundant (2U)

Screen ..... 2 x 40 characters LCD display
LED indicators ..... Local/Remote, Alarm, Mute, CPU

Keyboard ..... 16 keys
Monitoring ..... Ethernet (RJ45)/Serial RS485 (SubD 9-M)

RF connectors ..... 2.92mm female
IF/REF connectors ..... SMA female

DOWN CONVERTER CHARACTERISTICS

Input characteristics

Frequency ..... 25.5 – 27 GHz
Noise figure ..... 9 dB
VSWR ..... < 1.5:1 on 50 Ω
LO leakage ..... ≤ -70 dBm

Transfer characteristics

Conversion type ..... Single, no inversion
Gain ..... 42 dB min. @2400MHz, 40 dB min. @1200MHz
Gain control ..... 0 to 31.75 dB, 0.25 dB steps
Gain ripple ..... ±2 dB (2400MHz IF), ±1 dB (1200MHz IF)
Gain slope ..... ≤ 0,03 dB/MHz
Group delay variation ..... < 1.2 ns
Mute isolation ..... ≥ 50 dB

Output characteristics

Bandwidth & IF ..... 1500MHz (2400MHz IF), 750MHz (1200MHz IF)
VSWR ..... < 1.4:1 on 50 Ω
1dB compression point ..... ≥ +11dB (2400MHz IF), ≥ +10dB (1200MHz IF)
OIP3 ..... ≥ +21dB (2400MHz IF), ≥ +20dB (1200MHz IF)
In-band dependant spurious (@ max. gain) ..... ≤ -40 dBc
In-band independant spurious (@max. gain) ..... ≤ -50 dBm
Image rejection ..... > 50 dB (> 40 dB for F ≥ 26,25GHz with 1200GHz IF)

LOCAL OSCILLATORS

Frequency steps ..... 1MHz (or fixed for 2.4GHz IF)
Phase noise @ frequency offset from carrier: ..... ≤ -70 dBc / Hz @ 100 Hz
..... ≤ -80 dBc / Hz @ 1 kHz
..... ≤ -85 dBc / Hz @ 10 kHz
..... ≤ -90 dBc / Hz @ 100 kHz
..... ≤ -115 dBc / Hz @ 1 MHz
..... ≤ -115 dBc / Hz @ 10 MHz
Internal reference stability ..... < ±5 10-8 over full temperature range

GLOBAL SALES
5, Avenue des Andes - CS 90101 - 91978 Courtaboeuf Cedex - FRANCE – Tel.: +33 1 69 82 78 00 - Email: sales.sdsy@safrangroup.com

USA
3005 Business Park Dr - Norcross, GA 30071 - USA – Tel.: +1 770 753 4017 - Email: sales@SafranDataSystemsUS.com

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